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EUROPEAN PATENT OFFICE

Patent Abstracts of Japan

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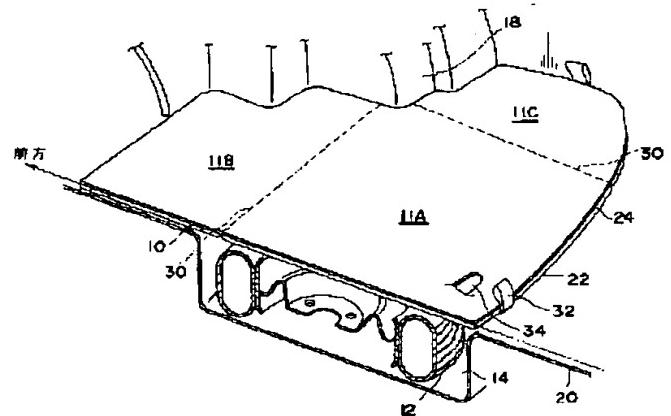
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APPLICATION NUMBER : 05250938

APPLICANT : TOYOTA MOTOR CORP;

INVENTOR : NORITAKE YOSHINORI;

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TITLE : TRUNK ROOM FLOOR COVERING MATERIAL FOR AUTOMOBILE



ABSTRACT : PURPOSE: To improve a shape retaining performance, and keep a floor covering material stable even if a heavy material is placed thereon.

CONSTITUTION: In a floor covering material to cover a floor 20 of a trunk room 18 of an automobile having a recessed part 14 for a spare tire 12 and a recessed part for a tool, the material has a honeycomb layer 22 and a skin layer 24 to cover the upper side of the honeycomb layer. The honeycomb layer and the skin layer are formed integrally of hard plastic, and an integral hinge 30 is arranged to open and close a part to cover the respective recessed parts.

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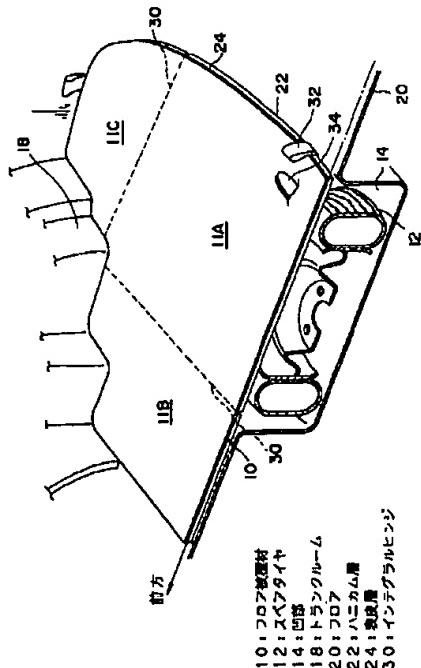
弁理士 松永 宣行

(54)【発明の名称】自動車のトランクルームのフロア被覆材

(57)【要約】

【目的】保形性がよく、重量物を載せても安定に保つことができる自動車のトランクルームのフロア被覆材を提供すること。

【構成】スペアタイヤ(12)用の凹部(14)および工具用の凹部を有する自動車のトランクルーム(18)のフロア(20)を被覆するものであって、ハニカム層(22)と、ハニカム層の上側を覆う表皮層(24)とを備える。ハニカム層と表皮層とを硬質のプラスチックによって一体に形成し、各凹部を覆う部分を開閉可能にすべくインテグラルヒンジ(30)を設けてある。



【特許請求の範囲】

【請求項1】 スペアタイヤ用の凹部および工具用の凹部を有する自動車のトランクルームのフロアを被覆するものであって、ハニカム層と、該ハニカム層の上側を覆う表皮層とを備え、前記ハニカム層と前記表皮層とを硬質のプラスチックによって一体に形成し、前記各凹部を覆う部分を開閉可能にすべくインテグラルヒンジを設けた、自動車のトランクルームのフロア被覆材。

【発明の詳細な説明】

【0001】

【産業上の利用分野】 本発明は自動車、特に、乗用車のトランクルームのフロアを被覆する被覆材に関する。

【0002】

【従来の技術】 カーペットの裏面にフェルト吸音材を貼り付けると共に、スペアタイヤ収納用の凹部を覆う部分を開閉可能にすべく一辺をヒンジとして切り抜いて蓋部を形成し、この蓋部のフェルト吸音材を硬質にしたトランクルームのフロアカーペットが提案されている（実開平2-144831号公報）。

【0003】

【発明が解決しようとする課題】 前記提案に係るものでは、スペアタイヤを覆う蓋部だけが硬質であり、その他の部分は軟質である。そのため、フロアカーペット全体を一定の形態に保つ性能、いわゆる保形性が悪く、トランクルーム内で位置ずれが生じ易い。また、蓋部とこれに隣接する部分とに跨るように重量物を載せたとき、蓋部がはね上がったり、重量物の姿勢が不安定になったりするおそれがある。

【0004】 本発明の目的は、保形性がよく、重量物を載せても安定に保つことができる自動車のトランクルームのフロア被覆材を提供することにある。

【0005】

【課題を解決するための手段】 本発明は、スペアタイヤ用の凹部および工具用の凹部を有する自動車のトランクルームのフロアを被覆するものであって、ハニカム層と、該ハニカム層の上側を覆う表皮層とを備え、前記ハニカム層と前記表皮層とを硬質のプラスチックによって一体に形成し、前記各凹部を覆う部分を開閉可能にすべくインテグラルヒンジを設けてある。

【0006】

【作用および効果】 トランクルームの形状に合せたフロア被覆材をトランクルーム内に配置する。その配置は、インテグラルヒンジでフロア被覆材を折り曲げができるため、支障なくできる。フロア被覆材を配置した後、スペアタイヤを取り外すとき、または工具を取り出すとき、インテグラルヒンジでフロア被覆材の部分を折り曲げ、凹部の覆いを除く。

【0007】 硬質のプラスチックによって一体に形成したハニカム層と表皮層とを備えるため保形性が良好であり、トランクルーム内に配置した後、位置ずれが生じない。

い。一方、インテグラルフランジを設けてあるため、凹部に収納したスペアタイヤまたは工具を取り出すとき、インテグラルヒンジでフロア被覆材を折り曲げて凹部の覆いを除けばよく、簡単である。また、プラスチック製であるため、周縁部を熱によって丸めることができ、見栄えを向上できる。

【0008】 ハニカム層が表皮層の下側にあることから軽量であるにも拘らず、十分な剛性を確保でき、フロア被覆材のあらゆる部分が実質的に同じ耐荷重性能を持つこととなる。その結果、重量物がインテグラルヒンジを跨ぐように載っても、重量物を安定に保つことができる。

【0009】

【実施例】 フロア被覆材10は、図1および図2に示すように、スペアタイヤ12用の凹部14および工具用の凹部16（図5）を有する自動車のトランクルーム18のフロア20を被覆するものであって、ハニカム層22と、ハニカム層22の上側を覆う表皮層24とを備える。通常、凹部14はフロア20のほぼ中央に、また凹部16はフロア20の一方の側部に設ける。

【0010】 フロア被覆材10のハニカム層22は、ポリプロピレン、ポリエチレンその他の硬質のプラスチックによって形成される。図3に示す実施例では、ハニカム層22は、凹凸を付与した心材26と、心材26の上下にそれぞれ貼り付けた表皮材27、28との積層構造である。

【0011】 一方、表皮層24は、ポリプロピレン、ポリエチレンその他の硬質のプラスチックによって形成されるもので、図3に示す実施例では、単一の層からなっている。表皮層24は、ハニカム層22の上の表皮材27と融着され、ハニカム層22と一体にされる。

【0012】 フロア被覆材10には、凹部14、16をそれぞれ覆う部分を開閉可能にすべくインテグラルヒンジが設けられる。

【0013】 図示の実施例では、トランクルーム18の背面視においてフロア20のほぼ中央にスペアタイヤ用の凹部14が、またフロア20の右側部に工具用の凹部16があるが、トランクルーム18内のフロア20そのものの平面視の形状は、車両の前後方向へ伸びる中心軸線C（図2）に関して実質的に対称である。そこで、フロア被覆材10を、凹部14を覆う第1部分11A、第1部分11Aの前方の客室側に位置する第2部分11B、第1部分11Aの右側部の凹部16を覆う第3部分11Cおよび第1部分11Aの左側部の第4部分11Dに分け、隣り合う部分間にインテグラルヒンジ30を設けてある。したがって、合計3つのインテグラルヒンジ30がある。

【0014】 インテグラルヒンジ30は、図3に示すように、ハニカム層22の少なくとも下表皮材28と心材26とを裁断または熱溶融し、表皮層24と上表皮材

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27とにより、または表皮層24により隣り合う部分間を結合状態に維持することによって得られる。

【0015】たとえば、ハニカム層22の全体の厚みが5mm程度であり、上下の表皮材27、28の厚みが0.5～1mm、表皮層24の厚みが1mm程度であるとき、インテグラルヒンジ30の幅Aを4mm以上にすると、フロア被覆材10の1つの部分が隣り合う部分に対して、180～-30°の範囲で折曲げ可能である。そして、その折曲げの耐久性は、-30°Cで500回以上である。

【0016】フロア被覆材10を開く際の便宜のため、ひも32を付け、または手が入る穴34を開けておく。フロア被覆材10は、トランクルーム18のフロア20上にぴったり収まる形状に形成する。このように形成したフロア被覆材10をトランクルーム18内に収容するには、左右にあるインテグラルヒンジ30で第3部分11Cと第4部分11Dとを折り曲げて第1部分11Aの上に重ね、この状態でトランクルーム18にもたらし、第2部分11Bをトランクルーム18の所定の位置に押し込む。その後、第3部分11Cと第4部分11Dとを逆に折り曲げ、全体を平坦にする。

【0017】スペアタイヤ12を取り外すとき、図4に示すように、第1部分11A、第3部分11Cおよび第4部分11Dをインテグラルヒンジ30で折り曲げ、凹部14の覆いを除く。この場合には、第2部分11Bだけがトランクルーム18内の所定の位置に留まっている。工具を取り出すとき、図5に示すように、第3部分11Cをインテグラルヒンジ30で折り曲げ、凹部16の覆いを除く。

【0018】前記実施例では、ハニカム層22が心材26と上下の表皮材27、28とからなり、一方、ハニカム層22の他に表皮層24を設け、上表皮材27と表皮層24とを融着している。これに代え、上表皮材27そのものを表皮層とすることができる。この場合、ハニカム層22は、心材26と下表皮材28とによって形成さ

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れることとなる。

【0019】フロア被覆材10の耐荷重性能は、ハニカム層22の心材26の単位面積当りの樹脂量と、心材26の構造とによって管理でき、また、インテグラルヒンジ30の耐荷重性能は、表皮層の厚みまたは表皮層と上表皮材との厚みによって管理できる。

【0020】フロア被覆材10がトランクルーム18のフロア20上にぴったり収まる形状である場合、トランクルームに別途配置するサイドトリムの下端部周縁をフロア被覆材10によって固定することができるため、サイドトリムの下端部を独立に固定することが不要となる。

【図面の簡単な説明】

【図1】本発明に係る自動車のトランクルームのフロア被覆材と、トランクルームのフロアとの一部を破断して示す斜視図である。

【図2】自動車のトランクルームにフロア被覆材を配置した斜視図で、一部を示している。

【図3】インテグラルヒンジを含むフロア被覆材の拡大断面図である。

【図4】フロア被覆材をスペアタイヤを取り外すように折り曲げた状態を示す斜視図である。

【図5】フロア被覆材を工具を取り出すように折り曲げた状態を示す斜視図である。

【符号の説明】

10 10 フロア被覆材

12 12 スペアタイヤ

14、16 14 凹部

18 18 トランクルーム

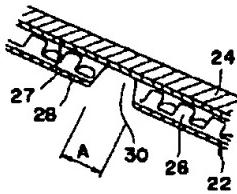
20 20 フロア

22 22 ハニカム層

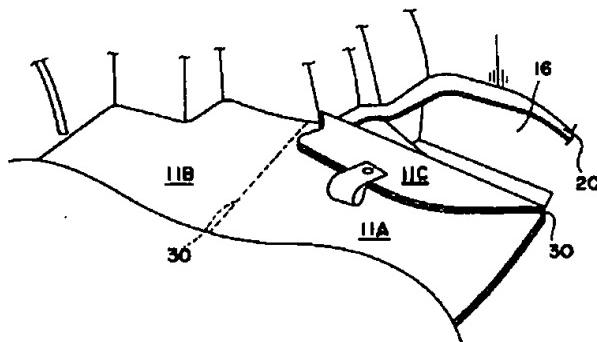
24 24 表皮層

30 30 インテグラルヒンジ

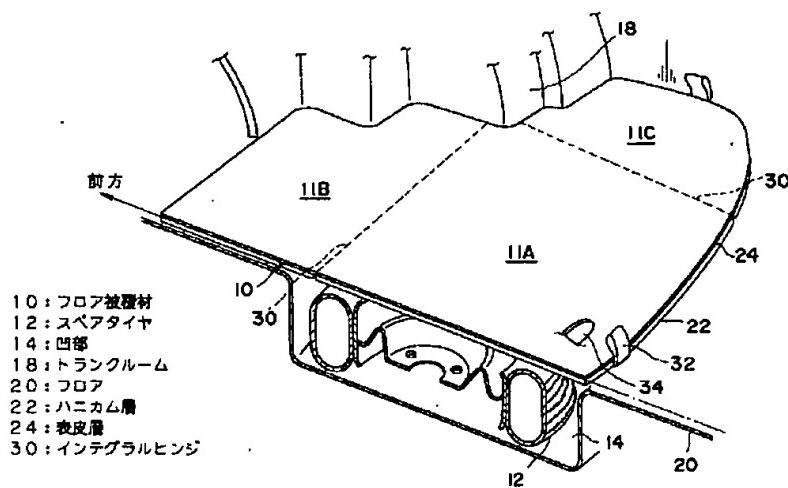
【図3】



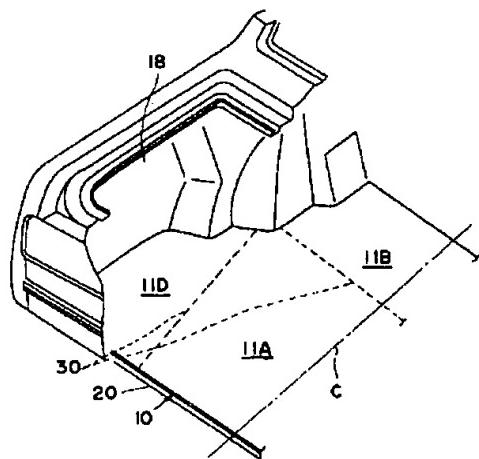
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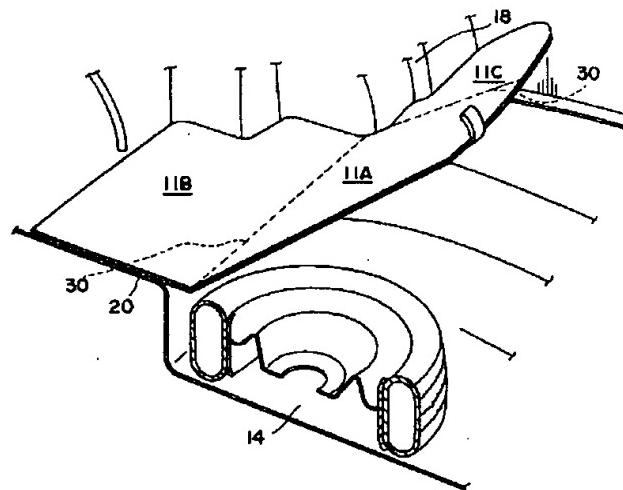
【図1】



【図2】



【図4】



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(71)Applicant : **TOYOTA MOTOR CORP**

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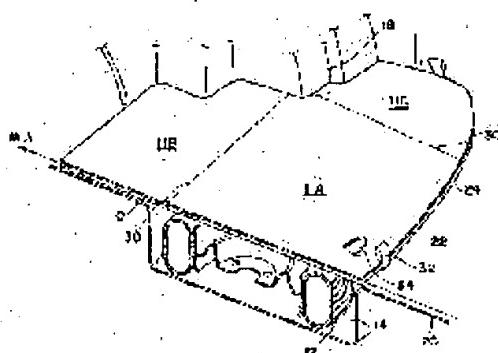
(72)Inventor : **HASHIKABE SEISHI
NORITAKE YOSHINORI**

(54) TRUNK ROOM FLOOR COVERING MATERIAL FOR AUTOMOBILE

(57)Abstract:

PURPOSE: To improve a shape retaining performance, and keep a floor covering material stable even if a heavy material is placed thereon.

CONSTITUTION: In a floor covering material to cover a floor 20 of a trunk room 18 of an automobile having a recessed part 14 for a spare tire 12 and a recessed part for a tool, the material has a honeycomb layer 22 and a skin layer 24 to cover the upper side of the honeycomb layer. The honeycomb layer and the skin layer are formed integrally of hard plastic, and an integral hinge 30 is arranged to open and close a part to cover the respective recessed parts.



LEGAL STATUS

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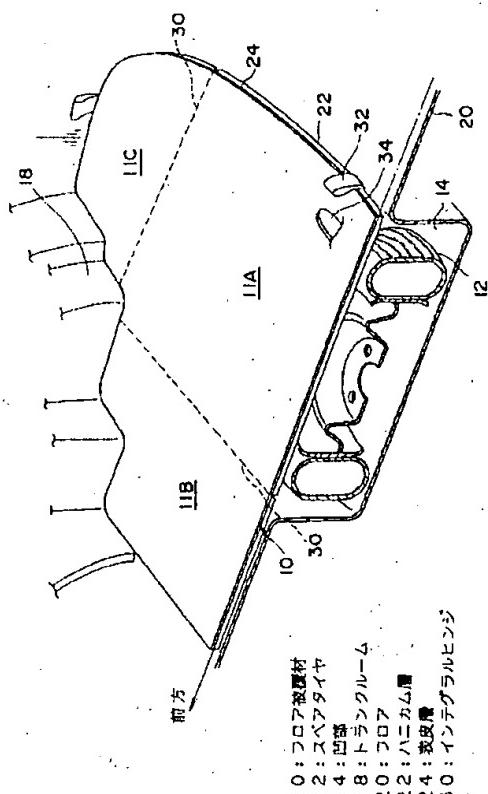
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[Date of extinction of right]

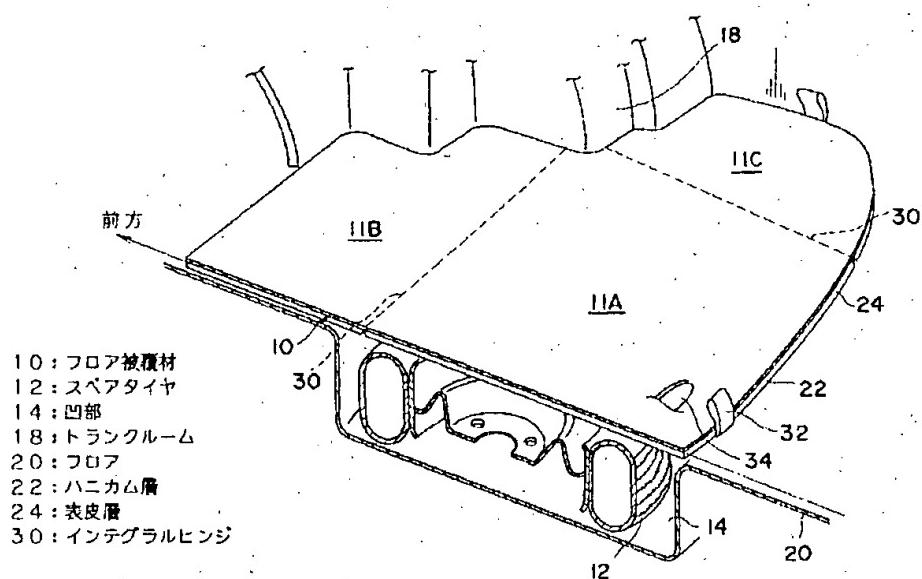
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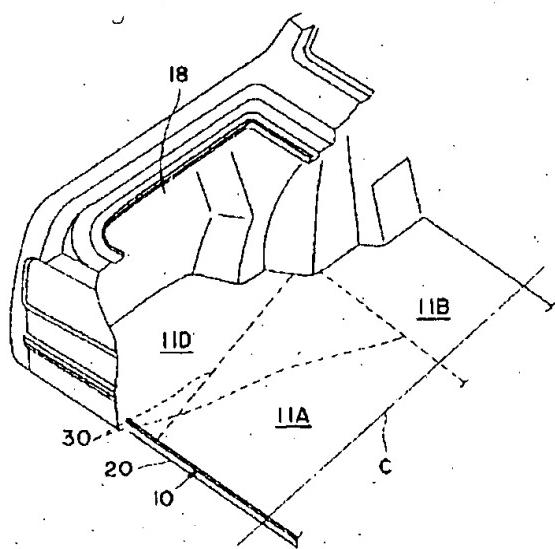
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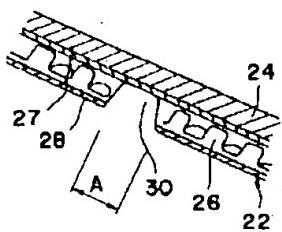
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Drawing selection drawing 2



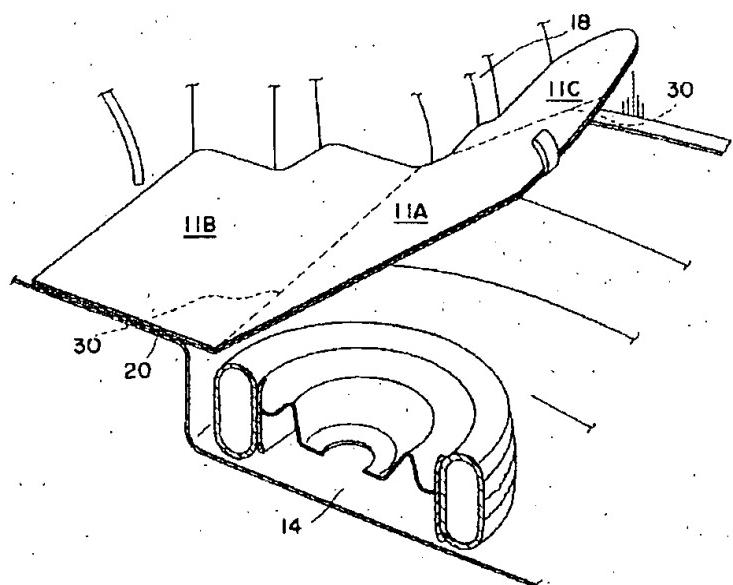
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Drawing selection drawing 3



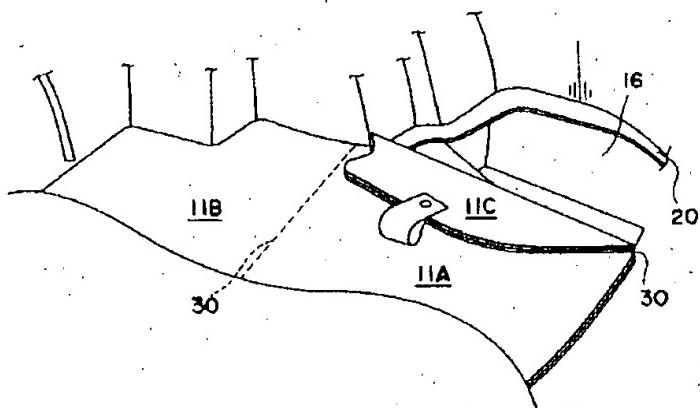
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Drawing selection [drawing 4]



[Translation done.]

Drawing selection drawing 5



[Translation done.]

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the perspective diagram fracturing and showing a part of floor covering material of the trunk room of the automobile concerning this invention, and floor of a trunk room.

[Drawing 2] The perspective diagram which has arranged floor covering material to the trunk room of an automobile shows the part.

[Drawing 3] It is the expanded sectional view of the floor covering material containing an integral hinge.

[Drawing 4] It is the perspective diagram showing the state where floor covering material was bent so that a spare tire might be removed.

[Drawing 5] It is the perspective diagram showing the state where floor covering material was bent so that a tool might be taken out.

[Description of Notations]

10 Floor Covering Material

12 Spare Tire

14 16 Crevice

18 Trunk Room

20 Floor

22 Honeycomb Layer

24 Epidermis Layer

30 Integral Hinge

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] this invention relates to an automobile and the covering material which covers the floor of the trunk room of a passenger car especially.

[0002]

[Description of the Prior Art] While sticking felt acoustic material on the rear face of a carpet, one side is clipped as a hinge that opening and closing of a wrap portion of the crevice for spare tire receipt should be made possible, a covering device is formed, and the floor carpet of the trunk room which made hard felt acoustic material of this covering device is proposed (JP,2-144831,U).

[0003]

[Problem(s) to be Solved by the Invention] In the thing concerning the aforementioned proposal, only a wrap covering device is hard about a spare tire, and other portions are elasticity. Therefore, the performance which maintains the whole floor carpet at a fixed gestalt, and the so-called firmness are bad, and it is easy to produce a position gap in a trunk room. Moreover, when a heavy lift is carried so that the portion which adjoins a covering device and this may be straddled, there is a possibility that a covering device may leap up or the posture of a heavy lift may become unstable.

[0004] The purpose of this invention is to offer the floor covering material of the trunk room of the automobile which can be kept stable, even if firmness is good and carries a heavy lift.

[0005]

[Means for Solving the Problem] this invention covers the floor of the trunk room of an automobile which has a crevice for spare tires, and a crevice for tools, is equipped with a wrap epidermis layer for this honeycomb layer and honeycomb layer bottom, forms the aforementioned honeycomb layer and the aforementioned epidermis layer in one by hard plastics, and has formed the integral hinge that opening and closing of a wrap portion of each aforementioned crevice should be made possible.

[0006]

[Function and Effect] The floor covering material doubled with the configuration of a trunk room is arranged in a trunk room. Since the arrangement can bend floor covering material with an integral hinge, it is possible convenient. When removing a spare tire after arranging floor covering material, or when taking out a tool, the portion of floor covering material is bent with an integral hinge, and the cover of a crevice is removed.

[0007] In order to have the honeycomb layer and epidermis layer which were formed in one by hard plastics, firmness is good, and a position gap does not arise; after arranging in a trunk room. It is [that what is necessary is to bend floor covering material with an integral hinge, and just to remove the cover of a crevice on the other hand when taking out the spare tire or tool contained to the crevice since the integral flange is prepared] easy. Moreover, since it is a product made from plastics, the periphery section can be rounded off with heat and appearance can be improved.

[0008] In spite of being lightweight, sufficient rigidity can be secured from a honeycomb layer being in the epidermis layer bottom, and all the portions of floor covering material will have the same load-

carrying-capacity ability substantially. Consequently, a heavy lift can be kept stable even if it appears so that a heavy lift may straddle an integral hinge.

[0009]

[Example] As shown in drawing 1 and drawing 2, floor covering material 10 covers the floor 20 of the trunk room 18 of an automobile which has the crevice 14 for spare tire 12, and the crevice 16 (drawing 5) for tools, and is equipped with the wrap epidermis layer 24 for the honeycomb layer 22 and honeycomb layer 22 bottom. Usually, a crevice 14 is established in the center of a simultaneously of a floor 20, and a crevice 16 is established in one flank of a floor 20.

[0010] The honeycomb layer 22 of floor covering material 10 is formed of the hard plastics of polypropylene, polyethylene, and others. In the example shown in drawing 3, the honeycomb layer 22 the laminated structure of the core 26 which gave irregularity, and the epidermis material 27 and 28 stuck on the upper and lower sides of a core 26, respectively.

[0011] On the other hand, the epidermis layer 24 is formed of the hard plastics of polypropylene, polyethylene, and others, and consists of a single layer in the example shown in drawing 3. The epidermis layer 24 is welded to the epidermis material 27 on the honeycomb layer 22, and is made into the honeycomb layer 22 and one.

[0012] An integral hinge is formed in floor covering material 10 that opening and closing of a wrap portion of crevices 14 and 16 should be made respectively possible.

[0013] Although the crevice 14 for spare tires of a floor 20 has the crevice 16 for tools in the center mostly in ***** of a trunk room 18 in the example of illustration again at the right-hand side section of a floor 20, the configuration of the plane view of floor 20 in a trunk room 18 itself is substantially symmetrical about the medial-axis line C (drawing 2) extended to the cross direction of vehicles. Then, the crevice 16 of the right-hand side section of part II part 11B located [covering material / floor / 10] in the cabin side ahead of wrap part I part 11A and part I part 11A in a crevice 14 and part I part 11A is divided into part IV part 11D of the left-hand side section of wrap part III part 11C and part I part 11A, and the integral hinge 30 is formed between adjacent portions. Therefore, there are a total of three integral hinges 30.

[0014] The thermofusion of the following table hide material 28 and the core 26 is judged or carried out at least, and the integral hinge 30 is obtained by maintaining between the portions of the honeycomb layer 22 which adjoin each other by the epidermis layer 24, the upper epidermis material 27, or the epidermis layer 24 to an integrated state, as shown in drawing 3.

[0015] For example, the thickness of the whole honeycomb layer 22 is 5mm. It is a grade and, for the thickness of the up-and-down epidermis material 27 and 28, the thickness of 0.5-1mm and the epidermis layer 24 is 1mm. When it is a grade, it is 4mm about the width of face A of the integral hinge 30. If it carries out above, bending in the range of 180 - -30 ** is possible to the portion which one portion of floor covering material 10 adjoins. And the endurance of the folding is 500 at -30 **. It is more than a time.

[0016] The hole 34 into which a string 32 is attached to or a hand goes is made for the facilities at the time of opening floor covering material 10. Floor covering material 10 is formed in the configuration exactly settled on the floor 20 of a trunk room 18. Thus, in order to hold the formed floor covering material 10 in a trunk room 18, part III part 11C and part IV part 11D are bent with the integral hinge 30 in right and left, it piles up on part I part 11A, a trunk room 18 is brought in this state, and part II part 11B is stuffed into the position of a trunk room 18. Then, part III part 11C and part IV part 11D are bent conversely, and the whole is made flat.

[0017] When removing a spare tire 12, as shown in drawing 4, part I part 11A, part III part 11C, and part IV part 11D are bent with the integral hinge 30, and the cover of a crevice 14 is removed. In this case, only part II part 11B has stopped at the position in a trunk room 18. When taking out a tool, as shown in drawing 5, part III part 11C is bent with the integral hinge 30, and the cover of a crevice 16 is removed.

[0018] In the aforementioned example, it consists of a core 26 and up-and-down epidermis material 27 and 28, and on the other hand, the honeycomb layer 22 forms the epidermis layer 24 other than the

honeycomb layer 22, and is welding the upper epidermis material 27 and the epidermis layer 24. It can replace with this and let upper epidermis material 27 themselves be an epidermis layer. In this case, the honeycomb layer 22 will be formed of a core 26 and the following table hide material 28.

[0019] The load-carrying-capacity ability of floor covering material 10 can be managed according to the amount of resins per unit area of the core 26 of the honeycomb layer 22, and the structure of a core 26, and the load-carrying-capacity ability of the integral hinge 30 can be managed with the thickness of an epidermis layer, or the thickness of an epidermis layer and upper epidermis material.

[0020] Since the soffit section periphery of the side trim arranged separately can be fixed to a trunk room by floor covering material 10 when floor covering material 10 is the configuration exactly settled on the floor 20 of a trunk room 18, it becomes unnecessary to fix the soffit section of a side trim independently.

[Translation done.]

* NOTICES *

Japan Patent Office is not responsible for any
damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

CLAIMS

[Claim(s)]

[Claim 1] Floor covering material of the trunk room of an automobile which covers the floor of the trunk room of an automobile which has a crevice for spare tires, and a crevice for tools, was equipped with the wrap epidermis layer for this honeycomb layer and honeycomb layer bottom, formed the aforementioned honeycomb layer and the aforementioned epidermis layer in one by hard plastics, and formed the integral hinge that opening and closing of a wrap portion of each aforementioned crevice should be made possible.

[Translation done.]